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Paul J. Roy

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07/05/2006

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EXAMINER

JEAN GILLES, JUDE

ART UNIT

PAPER NUMBER

2143

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/002,026

Applicant(s)

ROY ET AL

Examiner

Jude J. Jean-Gilles

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2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-44 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 15 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Action is in regards to the RCE application received on 04/28/2006. Applicants in page 15, lines 9 of the Remarks specified that claims 1-4 and 6-44 remain pending in this application without canceling claim 5. The Examiner assumes that this is a typographical error and that claims 1-44 are pending in this application and represent a system for "Scheduling and multiplexing data for broadcast transmission over multiple streams".

Information Disclosure Statement

2. The references listed on the Information Disclosure Statement submitted on 01/16/2002 have been considered by the examiner (see attached PTO-1449A).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-44** are rejected under 35 U.S.C. 102(e) as being anticipated by Connelly et al (Connelly), Patent No. 6,7,020,893 B2.

Regarding **claim 1**, Connelly discloses in a data broadcast system comprising one or more streams for broadcasting data to client systems, wherein the data broadcast system broadcasts a variety of data at particular times in order to meet demand for the variety of data at the client systems, a method of generating a data stream of a specified bandwidth for broadcast to one or more client systems (*figs. 1-6*) the method comprising acts of:

storing an identifier for at least one data source, the identifier indicating where data to be included within the data stream may be obtained and a bandwidth allocation associated with requirements for broadcasting the data (column 25, lines 1-28);

for each identifier, storing scheduling information that comprises a time when the data from the at least one data source should be added to the data stream for broadcast to the one or more client systems, wherein the scheduling information is stored only after first checking any previously existing scheduling information to verify that adequate bandwidth is available in the data stream for adding the data to the data stream at the time specified by the scheduling information, and such that the existing scheduling information is used to determine availability of bandwidth within the data stream (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62);

requesting and receiving the data from the at least one data source; and at the time specified in the scheduling information, adding the data obtained from the at least one data source to the data stream, wherein the data is broadcast to the one or more client systems in accordance with the scheduling information (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 2**, Connelly a method as recited in claim 1, wherein the data stream comprises a plurality of sub-streams, the method further comprising acts of:

storing a plurality of identifiers for a plurality of data sources (column 25, lines 1-28);

for each identifier, storing scheduling information that comprises a time when the data from each of the plurality of sources should be added to the data stream for broadcast to the one or more client systems, wherein the scheduling information indicates that data from at least two of the data sources should be added to the data stream for simultaneous broadcast to the one or more client systems(column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62);

requesting and receiving the data from the at least two data sources; and

at the time specified in the scheduling information, adding the data obtained from the at least two data sources to distinct sub-streams within the data stream, whereby the data from the at least two data sources arrives at the one or more client systems simultaneously (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 3**, Connelly discloses a method as recited in claim 2, wherein at least one of the plurality of sub-streams is dedicated to broadcasting data in real time (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 4**, Connelly discloses a method as recited in claim 2, wherein the data broadcast system further comprises (i) a scheduled content service for storing the plurality of identifiers and for storing scheduling information for each identifier

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(column 25, lines 1-28), and (ii) a data broadcast service for requesting and receiving data from the data sources and for adding the data obtained from the data sources to the data stream (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62);

Regarding **claim 5**, Connelly discloses a method as recited in claim 1, wherein the scheduling information further comprises (i) a time to begin broadcast of the data , (ii) a retransmission frequency to increase the probability that static data is received by the one or more client systems, (iii) a refresh frequency to assure that dynamic data is updated at the one or more client systems , (iv) a time when a final broadcast of the data should end, (v) meta-data associated with the data, (vi) a bandwidth allocation for the data, and (vii) data size information for static data (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Regarding **claim 6**, Connelly discloses a method as recited in claim 1, wherein each of the one or more clients is running one or more applications, and wherein the broadcast data stream provides the data for each of the one or more applications to consume (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 7**, Connelly discloses a method as recited in claim 1, further comprising an act of checking any previously existing scheduling information to verify that bandwidth is available in the data stream prior to storing the scheduling information (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Regarding **claim 8**, Connelly discloses a method as recited in claim 1, wherein the data is of a known size, the method further comprising an act of calculating at least one of (i) a recommended bandwidth for a specified refresh or retransmission

frequency, and (ii) a recommended refresh or retransmission frequency for a specified bandwidth(column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62...).

Regarding **claim 9**, Baber teaches the invention substantially as claimed. Gifford discloses a method as recited in claim 1, but does not specifically disclose the identifier for the at least one data source as being a uniform resource identifier or uniform resource locator (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Regarding **claim 12**, Connelly discloses a method as recited in claim 1, further comprising an act of delivering the data stream to a broadcaster for broadcast to the one or more client systems (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Regarding **claim 13**, Connelly discloses in a data broadcast system comprising one or more streams for broadcasting data to client systems, wherein the data broadcast system broadcasts a variety of data at particular times in order to meet demand for the variety of data at the client systems, a method of generating a data stream of a specified bandwidth for broadcast to one or more client (*figs. 1-6*), the method comprising steps for:

identifying at least one data source where data to be included within the data stream may be obtained and a bandwidth allocation associated with requirements for broadcasting the data(column 25, lines 1-28);

scheduling a time when data from each identified data source should be added to the data stream for broadcast to the one or more client systems, the scheduled time

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being a part of scheduling information for the data to be included within the data stream, wherein the scheduling information is used to schedule the time only after first checking any previously existing scheduling information corresponding to the data stream to verify that adequate bandwidth is available in the data stream for adding the data to the data stream at the scheduled time, and such that the existing scheduling information is used to determine availability of bandwidth within the data stream (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62);

obtaining the data from the at least one data source; and at the time specified in the scheduling information, generating the data stream with the data obtained from the at least one data source, wherein the data broadcast to the one or more client systems in accordance with the scheduling information (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 14**, Connelly discloses a method as recited in claim 13, wherein the data stream comprises a plurality of sub-streams, the method further comprising steps for:

identifying a plurality of data sources where data to be included within the data stream may be obtained ; (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62);

scheduling a time when data from each identified data source should be added to the data stream for broadcast to the one or more client systems, wherein data from at least two of the plurality of data sources is scheduled to be added to the broadcast data

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stream simultaneously(column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62);

obtaining the data from the at least two data sources(column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62); and

at the time specified in the scheduling information, generating the data stream that comprises at least two distinct sub-streams with the data obtained from the at least two data sources, whereby the data from the at least two data sources arrives at the one or more client systems simultaneously (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Claim 15 is substantially the same as **claim 3**, and is thus rejected for reasons similar to those in rejecting **claim 3**.

Claim 16 is substantially the same as **claim 5**, and is thus rejected for reasons similar to those in rejecting **claim 5**.

Regarding **claim 17**, Connelly discloses a method as recited in claim 13, further comprising a step for determining, based on any previously existing scheduling information and prior to scheduling a time when data from each identified data source should be added to the data stream, whether or not bandwidth is available in the data stream.

Claim 18 is substantially the same as **claim 8**, and is thus rejected for reasons similar to those in rejecting **claim 8**.

Regarding **claim 20**, Connelly discloses a computer program product for implementing, in a data broadcast system comprising one or more streams for

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broadcasting data to client systems, wherein the data broadcast system broadcasts a variety of data at particular times in order to meet demand for the variety of data at the client systems, a method of generating a data stream of a specified bandwidth for broadcast to one or more client systems (*figs. 1-6*), the computer program product comprising:

a computer readable medium for carrying machine-executable instructions that implement the method, wherein the method comprises acts of:

storing an identifier for at least one data source, the identifier indicating where data to be included within the data stream may be obtained and a bandwidth allocation associated with requirements for broadcasting the data(column 25, lines 1-28);

for each identifier, storing scheduling information that comprises a time when the data from the at least one data source should be added to the data stream for broadcast to the one or more client systems, wherein the scheduling information is stored only after first checking any previously existing scheduling information to verify that adequate bandwidth is available in the data stream for adding the data to the data stream at the time specified by the scheduling information, and such that the existing scheduling information is used to determined availability of bandwidth within the data stream; (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62);

requesting and receiving the data from the at least one data source; and at the time specified in the scheduling information, adding the data obtained from the at least one data source to the data stream, wherein the data is broadcast to

the one or more client systems in accordance with the scheduling information (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 21**, Connelly discloses a computer program product as recited in claim 20, wherein the data stream comprises a plurality of sub-streams, the method further comprising acts of:

storing a plurality of identifiers for a plurality of data (column 25, lines 1-28);

for each identifier, storing scheduling information that comprises a time when the data from each of the plurality of sources should be added to the data stream for broadcast to the one or more client systems, wherein the scheduling information indicates that data from at least two of the data sources should be added to the data stream for simultaneous broadcast to the one or more client systems; (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62);

requesting and receiving the data from the at least two data sources; and at the time specified in the scheduling information, adding the data obtained from the at least two data sources to distinct sub-streams within the data stream, whereby the data from the at least two data sources arrives at the one or more client systems simultaneously (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 10**, Connelly teaches a method as recited in claim 1, wherein the data comprises one or more files and the scheduling information further comprises meta-data associated with each of the one or more files, the meta-data comprising at least one of (i) an expiration time after which the one or more clients may delete a file, (ii) an extension time for extending the expiration

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time of a file that already exists, (iii) one or more allowed update flags if a file represents a directory, (iv) a trigger for causing some action to be performed at a client system, (v) one or more expressions for specifying one or more conditions that are associated with a file(column 30, lines 34-65;-column 33, lines 1-37; column 34, lines 29-62; column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 11**, Connelly teaches a method as recited in claim 10, further comprising the act of adding the meta-data to the data stream.

Claim 19 is substantially the same as **claim 10**, and is thus rejected for reasons similar to those in rejecting **claim 10**.

Claim 28 lists all the same elements of **claim 9**, but in computer program form rather than method form. Therefore, the supporting rationale of the rejection to **claim 9** applies equally as well to **claim 28**.

Claim 29 lists all the same elements of **claim 10**, but in computer program form rather than method form. Therefore, the supporting rationale of the rejection to **claim 10** applies equally as well to **claim 29**.

Claim 37 lists all the same elements of **claim 10**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claim 10** applies equally as well to **claim 37**.

Regarding **claim 21**, Connelly discloses a method as recited in claim 1, wherein the data stream is broadcast to a plurality of clients even though it is only intended to be consumed by one of the clients and accordingly consumed by only one of the clients(column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Claim 22 lists all the same elements of **claim 3**, but in computer program form rather than method form. Therefore, the supporting rationale of the rejection to **claim 3** applies equally as well to **claim 22**.

Claim 23 lists all the same elements of **claim 4**, but in computer program form rather than method form. Therefore, the supporting rationale of the rejection to **claim 4** applies equally as well to **claim 23**.

Claim 24 lists all the same elements of **claim 5**, but in computer program form rather than method form. Therefore, the supporting rationale of the rejection to **claim 5** applies equally as well to **claim 24**.

Claim 26 lists all the same elements of **claim 7**, but in computer program form rather than method form. Therefore, the supporting rationale of the rejection to **claim 7** applies equally as well to **claim 26**.

Claim 27 lists all the same elements of **claim 8**, but in computer program form rather than method form. Therefore, the supporting rationale of the rejection to **claim 8** applies equally as well to **claim 27**.

Claim 30 lists all the same elements of **claim 12**, but in computer program form rather than method form. Therefore, the supporting rationale of the rejection to **claim 12** applies equally as well to **claim 30**.

Claim 31 lists all the same elements of **claim 13**, but in computer program product form rather than system form. Therefore, the supporting rationale of the rejection to **claim 13** applies equally as well to **claim 31**.

Claim 32 lists all the same elements of **claim 14**, but in computer program product form rather than system form. Therefore, the supporting rationale of the rejection to **claim 14** applies equally as well to **claim 32**.

Claim 33 lists all the same elements of **claim 3**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claim 3** applies equally as well to **claim 33**.

Claim 34 lists all the same elements of **claim 5**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claim 5** applies equally as well to **claim 34**.

Claim 35 lists all the same elements of **claim 17**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claim 17** applies equally as well to **claim 35**.

Claim 36 lists all the same elements of **claim 8**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claim 8** applies equally as well to **claim 36**.

Regarding **claim 37**, Connelly discloses a method as recited. In claim 1, the method further including recommending a refresh or retransmission frequency for data having a specified bandwidth.

Regarding **claim 38**, Connelly discloses a method as recited in claim 1, the method further including recommending a refresh or transmission frequency for data having a specified bandwidth.

Regarding **claim 39**, Connelly discloses a method as recited in claim 1, wherein the data stream is broadcast to a plurality of clients even though it is only intended to be consumed by one of the clients and accordingly consume by only the one of the clients (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Regarding **claim 40**, Connelly discloses a method as recited in claim 1, wherein the scheduling information further comprises a time to begin broadcast of the data (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 41**, Connelly discloses a method as recited in claim 1, wherein the scheduling information further comprises a retransmission frequency to increase the probability that static data is received by the one or more client systems (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 42**, Connelly discloses a method as recited in claim 1, wherein time scheduling information further comprises a refresh frequency to assure that dynamic data is updated at the one or more client systems (column 8, lines 34-65; column 9, lines 15-50).

Regarding **claim 43**, Connelly discloses a method as recited in claim 1, wherein the scheduling information further comprises a time when a final broadcast of the data should end (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Regarding **claim 44**, Connelly discloses a method as recited in claim 1, wherein the scheduling information further comprises a bandwidth allocation for the data and data size information for static data (column 30, lines 34-65; column 33, lines 1-37; column 34, lines 29-62).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE NON-FINAL.**

Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914. The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley, can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-9000.

Jude Jean-Gilles

Patent Examiner

Art Unit 2143



JEFFREY PWU
PRIMARY EXAMINER



June 22, 2006